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ABSTRACT

This briefing reviews the state of the art in the application of the Internet in career guidance and counseling. It describes how the Internet works and the main services offered: electronic mail, newsgroups, the World Wide Web, file transfer, and intranets. A glossary is provided. The following current and potential uses are discussed: access to information; direct access to computer-assisted guidance systems; individual guidance at a distance; new forms of group work through e-mail and newsgroups; access and outreach; electronic recruitment, placement, and job search; careers education; marketing of guidance services; and professional networking and support. A range of issues relating to the use of the Internet in the career field are identified: how to ensure equitable access to the resources of the Internet; whether the Internet is to remain largely free-access or will become more commercialized as business use increases; as the number of Internet users increases, the choice between expensive upgrading to Integrated Services Digital Network lines and ever faster modems or increasingly slow access times; control of the quality of information; security and confidentiality of personal information; and targeting the training needs of guidance workers to enable them to take a proactive role in the development of the Internet as a guidance tool. Two sources for further information are provided. (YLB)

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

The Internet and Careers Work

NICEC

The National Institute for Careers Education and Counselling is a network organisation supported by CRAC. It conducts applied research and development work related to guidance in educational institutions and in work and community settings. Its aim is to develop theory, inform policy and enhance practice through staff development, organisation development, curriculum development, consultancy and research.

CRAC

The Careers Research and Advisory Centre is a registered educational charity and independent development agency founded in 1964. Its education and training programmes, publications and sponsored projects provide links between the worlds of education and employment. CRAC has sponsored NICEC since 1975.

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The Internet could have massive implications for careers work. It has the potential to make careers information more accessible than ever before. It could also lead to new careers education and guidance practices.

This NICEC Briefing seeks to review the state of the art in the application of the Internet in careers work. It examines current and potential uses. It then identifies a range of issues relating to the use of the Internet in the careers field. The Briefing is aimed at informed careers practitioners (and their managers) who want to consider the implications of the Internet for their work.

The Briefing has been written by Marcus Offer (Lecturer in Vocational Guidance at the University of Reading and a Fellow of NICEC) and Tony Watts (Director of NICEC), supported by funding from the Choice and Careers Division of the Department for Education and Employment.

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WHAT IS THE INTERNET?

HOW DOES IT WORK?

The Internet is a network of networks, without central control. The individual reaches it through a local service provider, usually over local telephone lines connected via a modem from the computer at a school, college, place of work or home, or a public access point such as a library or 'cybercafe'.

It is rather like the international transport system. The local provider passes the traffic on via regional networks, which are linked at national and international level by other carriers with long-distance connections. The providers of each part of the network simply agree to carry each other's traffic.

Once connected, the individual user can move around this network, sending and receiving messages, calling up information from anywhere in the world, or holding discussions with several others. Each 'node' in the network is a point where information is located, provided by a variety of people and organisations. Technically, information can be sent via any available route across this network.

Users can follow their own pathways within the Internet. In a careers context, this can increase the scope of their ideas about opportunities, encourage lateral thinking about what might be of interest, and appeal to those who see serendipity as an important part of career learning and development. At the same time, quality information providers can structure their sites to make it easy to focus on what is of value and to give access to more traditionally structured databases.

MAIN SERVICES OFFERED

- *E-mail* – the facility to send letters, notes and documents to others. These could be letters of application, CVs, answers to enquiries, expressions of opinion, even counselling responses to a client. E-mail is not exclusive to the Internet, but the Net makes it possible to talk to anyone in the world who has an E-mail address, not just to others in one's own organisation.
- *Newsgroups* are an extension of E-mail and involve exchange of ideas and information between groups of users on a specific topic. *Bulletin boards* are a variation on this theme – an electronic version of the public notice board.
- *The World Wide Web* is a network that links millions of sites around the world where information is provided, to anyone who connects to the 'address' of that site. The sites can contain text, graphics, and/or multimedia material.
- *File transfer* means that software can be passed directly from one computer to another without sending a disk through the post. The files transferred may include text-only or interactive programs; the more complex programs may take longer to transfer.
- *Intranets* are local networks using Internet software within a boundary defined by an organisation or a group of organisations. All the features of the larger network can be seamlessly available, but access to local or 'in-house' material is restricted to a smaller group of users, with consequent security and confidentiality.

GLOSSARY

Home page
The first screen of information that appears when the user connects to a World Wide Web Site. It usually contains the name of the organisation, an index of what information is provided, and perhaps some graphics – a company logo, for example.

Intranet
A local network using Internet technology, e.g. E-mail or Web browsing software, but fenced off from users outside the area or organisation. It allows users to navigate seamlessly both the Internet itself and the local network.

ISDN – Integrated Services Digital Network
A digital version of the public service telephone network. Because the information it carries is digitised, it can carry a variety of different media – voice, video, and computer data, for example. This makes it especially valuable for audio-visual and multimedia applications such as video-conferencing or the transfer of graphics. Transfer of such data could otherwise be impossible or very slow.

Search engine
Software to help the user search for information on the World Wide Web using keywords.

URL – Uniform Resource Locator
A World Wide Web site address which enables the user to find specified pages of information. The URL of the DfEE home page, for example, is http://www.open.gov.uk/dfee/dfeehome.htm

Usenet
A collection of newsgroups.

Web browser
Software used to move around the World Wide Web and view documents on it. It can be used within Intranets as well.

SOME CURRENT AND POTENTIAL USES

ACCESS TO INFORMATION

The Internet offers an unmediated link between user and information provider. Information can be stored as close to its source as possible, facilitating regular updating. However, the sheer quantity of unfiltered information can make it difficult for users to find and evaluate the information they need. There is a role for guidance services in providing a filter, a quality-assurance process, as the number of apparently relevant sites delivered with each trawl of the Web becomes ever larger.

University of Northumbria Division of Employment Studies has a Web site (http://www.unn.ac.uk/~ecu1/) with links to over 300 other sites relevant to careers education and guidance. These are grouped into three broad sections:

- *Contextual information* – links to organisations involved in careers guidance, links to sources of information on the theory and practice of guidance, and more general sources on education, training and employment.
- *Information on specific occupations and opportunities* – links to employers, professional and trade associations and to other sources on occupations and employment, by occupational group.
- *Advice on how to find Web pages* by keyword searches and links to home pages.

Other gateways to careers information on the Web include Careersoft (http://www.careersoft.co.uk), an access point for the National Association of Careers and Guidance Teachers, Datalake (http://www.westlake.co.uk/datalake/) (for world-wide higher education) and Careers Europe. Careers Europe links with other European careers resources centres (http://www.careuro.demon.co.uk.).

DIRECT ACCESS TO COMPUTER-ASSISTED GUIDANCE

Through file transfer or direct access to remote databases, the Internet could make it possible to access the full range of computer-assisted guidance systems 'on-line', not just what happens to be available in the local school/college or careers centre. Such systems might then be used without mediation or support from a guidance worker.

The Web Site of CSU (Software Support) Ltd (http://www.prospects.csu.ac.uk) gives on-line access from anywhere in the world to occupational profiles from the AGCAS (Association of Graduate Careers Advisory Services) database, plus an extensive postgraduate study database. Users can also search the database of employers of graduates (SCAN) on-line for information on employment opportunities relevant to their degree, desired location, choice of occupation, etc. Information can be downloaded or printed out.

INDIVIDUAL GUIDANCE AT A DISTANCE

Counselling via e-mail is already being used. 'Chat mode' allows two E-mail users to view the text sent and received simultaneously (a whole conversation on screen). For those who are shy of talking to new people about their concerns, distance contact provides a 'warm-up': a safe way to sample the relationship with the counsellor before embarking on personal contact.

Especially if coupled with (video-) 'conferencing' techniques, the Internet can provide a powerful medium for delivering distance guidance. It is even possible to see and talk with someone while viewing or using the programs on their computer.

DfEE sponsored two projects in 1996 involving video-conferencing to deliver guidance at a distance. One involves the adviser and client sharing the experience of doing a computer-assisted guidance program via the video-conferencing link. The adviser can discuss the results with the client and alter items as needed. The other offers a video-conferencing link to the careers adviser for advice to support the use of computer-assisted guidance. Either of these activities could easily be carried on via the Internet, though video-conferencing requires a more expensive ISDN phoneline than normal Internet usage.

NEW FORMS OF GROUP WORK

E-mail and newsgroups make possible new forms of group guidance. Anyone who registers with a newsgroup can read all letters and information posted by others, and respond or comment themselves. This offers a forum for group discussion of an issue.

'Moderated' newsgroups, where contributions are monitored before posting, offer a new way of encouraging group members to learn from each other, with help from a facilitator. A jobclub could be run at a distance in this way, or a careers adviser/co-ordinator could run a group discussion with participants from several schools or colleges. People who are reluctant to participate in face-to-face discussions may be more willing to contribute in this medium. It offers another way of accommodating different learning styles, as well as increasing the productivity of guidance specialists.

ACCESS AND OUTREACH

Extending a guidance service on to the Internet enables it to reach people in new ways and in new places (including their own homes and workplaces) 24 hours a day. 'Conferencing' facilities and the use of E-mail and newsgroups all contribute to this. At present many of the people guidance services target when they engage in 'outreach' do not have access to the hardware and software needed. If this can be overcome (e.g. by providing workstations in public access points, community centres or 'telecottages'), there may be particular potential for the Internet in rural, scattered communities, and for disabled or disaffected clients.

ELECTRONIC RECRUITMENT, PLACEMENT AND JOB SEARCH

The Internet offers a speeding up and streamlining of the process of application and recruitment for jobs and courses. Current examples include:

- Electronic posting of vacancy information
- Electronic application forms
- Electronic submission of CVs and resumes
- Sites that teach job-seeking skills (in at least one case, using game techniques)

The ability to update on-line on the Internet is an advantage of the clearing vacancy service offered by Hobsons on their Web site (http://www.hobsons.com). Users can browse the data, and register an interest with an institution, giving more information about results, level of course required and so on. Alternatively, they can go from there to the institution's own home page on the World Wide Web for information.

If more and more employers take to handling their recruitment via electronic media, this will have considerable implications for guidance and employment services. The ability of job seekers to handle electronic applications and write effective electronic CVs and resumes will need to be supported by guidance and placement services, requiring new techniques and skills.

Employment services on the Internet mean that the jobseeker can directly search a database of jobs for relevant vacancies, and may add their own details to a central database of CVs and resumes. Employers then search the database for suitable applicants, sometimes using a computerised search of CVs to shortlist candidates. Some major employment services also offer links to other employment agencies. Examples include Peoplebank (http://www.peoplebank.com), Jobsite (http://www.jobsite.co.uk) and Careermosaic (http://www.careermosaic.com).

CAREERS EDUCATION

Careers education programmes can offer opportunities for students to learn how to use the Internet critically and analytically to meet their own careers guidance needs. This includes teaching students to develop their own sense of quality, enabling them to make sound critical judgements about what information is offered and how to use imperfect information. These are key skills in career learning. Increasing students' ability to use this medium for careers purposes will also add to their competence in other areas (research skills, IT skills).

Using Intranets as well as the Internet means that students can record their own experiences and learn from each other's, becoming actively involved in the creation of learning material rather than passive recipients of it.

An Intranet can link schools, colleges, the careers service and students across a local network. How it works depends on the software drawn down from the Internet.

For example, an Intranet E-mail system means that staff and students can exchange information and ask questions of each other via the local network. General information, e.g. local job vacancies or work experience opportunities, could be on electronic 'bulletin boards' for all to see, or a single student could send a follow-up question to a careers adviser on something arising from an interview, or the adviser could check if the student had taken action as agreed.

The use of 'Web browser' technology within such a local network makes it possible to access both the World Wide Web and in-house 'pages' carrying related curriculum resources. The difficulty of finding material on the Internet itself can be reduced by an in-house menu or 'subject index' on the Intranet that offers a speedy link to relevant local, national or international Web sites already quality-tested by the careers co-ordinator or careers service.

A good example of an Intranet user is Wirral Metropolitan College (http://www.wmc.ac.uk./). Another is the Cambridgeshire Careers Exchange funded by DfEE which uses a closed wide area network with access to the Internet or Web as required (E-mail: postcentre@ctadcam.demon.co.uk).

MARKETING OF GUIDANCE SERVICES

Many careers services are developing home pages to market their services to potential clients. Nearly all higher education careers services are now using the Internet for communicating with their clients. Other careers services, too, are investing in the new communications medium. This offers public relations benefits as well as access to new groups of guidance seekers.

A CSU/AGCAS survey in 1996 showed that most career-minded higher education students use the Internet regularly; a third have already used it for a careers-related purpose and over 90% are interested in doing so. Students' use of the Internet is not limited to those studying 'technical' degree subjects. Respondents' priorities were: 'Up-to-date job vacancies', 'Background information on employers', 'General information on career choice', and 'Job applications via Internet'.

PROFESSIONAL NETWORKING AND SUPPORT

Internet and Intranet applications, 'conferencing' facilities, E-mail and newsgroups can be used to share information and good practice between professionals. Information on staff training opportunities, downloadable policy documents, project reports, quality-assurance materials etc. can all be distributed this way. National or local labour market information can also be collated, structured, and disseminated to update advisers and support guidance.

Within a local network, each individual can have a 'home page' with details of expertise and experience. These pages can be linked to provide a training resource for others in the network.

ISSUES

ACCESS

Typical users of the Net are relatively better-off, younger people, and more likely to be men than women. How can equitable access be assured to the resources of the Internet? Possible strategies include:

- Providing more public access points – particularly in places where people meet for other purposes. One model for this is the so-called 'cybercafe', where an informal atmosphere and leisure facilities are offered alongside Internet workstations open to all.
- Linking to other guidance access points such as the national guidance helpline or local TEC/LEC training databases, or to phone-in programmes on local radio or TV.
- Linking use of the Internet with use of other resources. Thus printed media or CD-ROM can be distributed which can either be used alone or enhanced by support from a World Wide Web site or via E-mail/newsgroups.

COSTS

A major issue for the future is whether the Internet is to remain largely free-access or will become more commercialised. Business use is likely to increase, with charges for access to some information.

At present the main costs are:

- The cost of hardware – typically a modem for connecting the computer to the telephone line. If ISDN is used, this will be a large additional expense.
- Initial registration with, and monthly subscription to, a local service provider.
- The additional cost of renting Web space if a home page is to be set up for the school, college or guidance service, along with any programming costs involved.
- Running and maintenance costs, including on-line telephone charges, usually at local rates.
- Possibly some software costs, though software can often be downloaded free from the Internet or comes as part of the package from the service provider.
- Staff time and training to use the system.
- The provision or hire of physical locations where the system can be used.

TIME

The number of people using the Internet is growing exponentially; because of the increased use of pictures and sound, the volume of traffic per user is growing even faster. This means a choice between expensive upgrading to ISDN lines and ever faster modems, or increasingly slow access times. 'Surfing' the Net is typically a slow and leisurely process because of the mass of unco-ordinated, unstructured material that confronts the new user in particular.

Ways in which the user can cut down the time spent on unproductive searching include:

- 'Bookmarking' of relevant and regularly used sites so that the user can return to them later. Collecting such sites, and material from them, might form the basis of a careers lesson in school. Similar signposting of useful material could be provided from a careers service home page.
- Downloading of data/software from the Internet and World Wide Web. Information downloaded can be regularly 'refreshed' from the original site to ensure it is up-to-date, but used 'off-line' on one's own computer without further call charges (copyright issues may need attention).
- Use of Intranets. Creating a local network linked to the wider Net, but fenced off from it, offers further possibilities for economy.
- Integration with other resources. E-mail and Web sites may be used sparingly, as part of a package of guidance or careers education. This ensures that the Net is used only when it is clearly the best way to deliver a learning opportunity, not because of the 'gee-whizz' factor.
- Training, to highlight effective and efficient ways of using the new resources.

QUALITY CONTROL

The quality of information on the Internet is, by definition, difficult to guarantee. How important is it to do so? Those involved in education-based careers work may be less concerned about this: developing a critical approach towards imperfect information has been a traditional part of careers education. At the same time, there is a natural desire to protect younger people until they have acquired such skills. But this tension is present in almost all teaching, through whatever medium.

For individual guidance purposes, however, information needs to be accurate, comprehensive, up-to-date and comparable. Guidance services need to play a role in providing structure, coherence, quality assurance and 'kite-marking'.

Web pages should:

- display the date of last update and the name of the provider;
- declare any vested interests or possible bias;
- offer relevant links to other sites which enhance the value of the original;
- be quick to download and easy to use;
- offer supporting resources via other media such as workbooks, video, CD-ROM, etc.

SECURITY AND CONFIDENTIALITY

The security and confidentiality of personal information obviously needs additional safeguards on a system accessible from anywhere in the world. Again, the development of Intranets may provide some protection for guidance users. Password-protected sites on the network may also help. However, the medium is clearly not best suited to the transfer of highly sensitive information.

TRAINING NEEDS

The Internet has implications for the training needs of guidance workers. Attention to such needs will enhance the capacity of the guidance community to take a proactive part in the development of the Internet as a tool in guidance.

Training needs include:

- technical awareness and understanding of the Internet and its facilities;
- ability to access the Net;
- use of E-mail;
- group-facilitation skills of moderating newsgroups;
- conferencing skills;
- understanding electronic application and recruitment;
- research and information-management skills;
- knowledge of sources.

Some of these skills will be needed by all guidance workers; some only by specialists.

FURTHER INFORMATION

Choice and Careers Division, Department for Education and Employment, Moorfoot, Sheffield S1 4PQ Tel: 0114-259-4608

For details of DfEE-supported projects such as the Cambridgeshire Careers Exchange, the Tyneside Virtual Careers Centre and the JIIG-CAL trial of video- and audio-conferencing techniques. There is also a DfEE/Careers Service National Association survey of careers service use of the Internet.

Web site: http://www.open.gov.uk/dfee/ccdintro.htm

Includes details of Choice and Careers Division publications.

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Web site: http://www.ncet.org.uk

This site gives a useful 'Introduction to the Internet', a glossary of technical terms, and details of NCET publications.

Further copies of this Briefing are available from:

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